

North Sewer - Bldg. 3

Raytheon Company
Semiconductor Division - October 24, 1983

Section C of Application for Industrial Waste Discharge Permit

Sewer Permit information for the industrial sanitary sewer which includes the plate shop neutralization system at Bldg. 3 (350 Ellis Street, Mountain View).

1. The activity at this location would be called light electronics manufacturing and plate shop, and consists of integrated circuit fabrication (utilizing epitaxial and diffusion processes) and gold, tin and copper plating, along with the corresponding office and engineering functions.
2. The list of chemicals used was made up after reviewing the Materials & Specifications Log (a Raytheon process control document) with the appropriate production & shop people to determine which items are used at this location and is as follows:

ACETIC ACID

ACETONE

ACTIVATOR G182B

AD SOL #2

AMMONIA, GAS

AMMONIUM FLUORIDE

AMMONIUM HYDROXIDE

AMMONIUM PERSULFATE

ANTIMONY TRIOXIDE

ANTIMONY TRIOXIDE HP

ARSINE, GAS

ARSENIC TRIOXIDE AR

ARSENIC SPIN RITE

BORON SPIN RITE

BORON TRIBROMIDE VIAL

BUFFERED ETCH 8:1

BUFFERED ETCH 10:1

BUFFERED ETCH 7:1

N-BUTYL ACETATE

2. Continued

CHROME ETCH 900
CHROMIC TRIOXIDE
CLEANER GOLDEN SUNDS
CLEANER LOC REG
CLEANER MARKEM 500
CLEANER NEUTRA RINSE 40
CUSTOM GAS 20% C1/ 2% O2/ 78% He

DEVELOPER AZ
DEVELOPER AZ303A
DEVELOPER HPR
DEVELOPER KPR
DEVELOPER MF312
DEVELOPER PPR
DICHLOROSILANE 99.99 GAS

ETCHANT GAS DE100
ETHYLENE GLYCOL

FLUOROchemical FC40
FLUOROchemical FC72
FREON 14 GAS

GREASE, VACUUM

HELIUM CYL
HEXAMETHYLDISILAZANE 10% SiH₄
HEXAMETHYLDISILAZANE 100%
HYDROFLUORIC ACID
HYDROCHLORIC ACID
HYDROGEN CHLORIDE, GAS
HYDROGEN PEROXIDE 30%

2. Continued

INK REMOVER 911
INK THINNER MARKEM YD
ISOPROPANOL

KTI PAD ETCH

LAPPING COMPOUND
LUBRICANT SPRAY

MELAMINE MOLD WASH BULK
METAL CLEANER ENBOND 160
METAL STRIPPER ENSTRIP TL
METAL STRIPPER ENSTRIP AV-11013-R
METHANOL
METHYL ETHYL KETONE
MICROPOLISH ALUMINA TYPE A

NITRIC ACID
NITROUS OXIDE GAS

OIL, PUMP
OXYGEN GAS CYL

PHOSPHORIC ACID
PHOSPHINE
PHOSPHOROUS OXYCHLORIDE 500cc BUBBLER
PHOSPHOROUS OXYCHLORIDE
PHOTO MICRORESIST
PHOTO POSITIVE RESIST
PHOTO RESIST AZ111S POSITIVE
PHOTO RESIST KTI NEGATIVE (40419)
PHOTO RESIST WAYCOAT
PHOTO RESIST STRIPPER
PHOTO STRIPPER A30

2.

Continued

POLISHING COMPOUND LUSTROX 6500
POLISHING COMPOUND MICROGRIT 12
POTASSIUM CYANIDE 98% BULK
POTASSIUM FERROCYANIDE
POTASSIUM HYDROXIDE PELLETS
1-PROPANOL

RAPID FIXER Q-SO-3
R-ETCH
REMOVER, FLUX 564
RESIN PM79
RESIN SYLGARD 184
RUST LICK G1066D

SILANE UHP
SILANE
SILASTIC RTV IN TUBE
SILICON TETRACHLORIDE
SODIUM CARBONATE
SODIUM HYDROXIDE
SOLVENT D
SOLVENT DMC
SOLVENT STODDARD
SOLVENT TDF
SOLVENT TDFC
SOLDER FLUX ALROS 100
SOLDER FLUX 842
STABILIZER G382B
STANNOUS SULFATE
SULFURIC ACID

TINGLO CULMO BRIGHTENER
TINGLO CULMO STARTER
111-TRICHLOROETHANE VG 5 GAL (40479)

2. Continued

VIA ETCH

XYLENE

3. Waste Treatment Facilities

- 3.1 The sewer is made up of a sanitary portion and an industrial portion.
 - 3.2 The sanitary portion is a series of laterals feeding the sewer which goes under the north end of Bldg. 3 (350 Ellis Street, Mountain View).
 - 3.3 The industrial portion consists of a cyanide destruct system and a neutralizing system fed from the plate shop and from the extreme West side of Bldg. 3. The cyanide destruct system uses chlorine to destruct the cyanides coming from the plate shop and consists of a pit, stirrers, ph monitoring control and chlorine dispensing equipment. The effluent from this system flows into the neutralizing system. The neutralizing system consists of two pits with stirrers, ph monitoring and anhydrous ammonia introducing equipment.
 - 3.4 Solvents are collected and held in storage for hauling away by a licensed hauling contractor.
4. The exceptional wastes are fluorides. We have taken actions to reduce the high fluoride content.
5. There are no radioactive wastes at this location.
5. There is to be no measurable amount of organic solvents discharged at this location as there is a separate drain and collection system for solvents in Building 3.